

Claims

What is claimed is:

1. A disc drive comprising:
 - 5 an information storage disc rotatably mounted on a spin motor and having a surface partitioned into a plurality of zones;
 - an actuator assembly for positioning a transducer over the surface of the information storage disc, the actuator assembly retracting the transducer from a data portion of the information storage disc in response to a retraction
 - 10 voltage applied for a retraction time interval, the retraction voltage and retraction time interval being calculated based on the location of the transducer on the surface of the information storage disc;
 - a retraction data table that is arranged to store values for the retraction voltage and the retraction time interval corresponding to the zone
 - 15 associated with the location of the transducer; and
 - a park position for supporting the transducer off of the data portion of the information storage disc when the transducer is retracted, the actuator assembly reaching the park position at a velocity within a predetermined range when the retraction voltage is applied for the retraction time interval;
 - 20 wherein predetermined default values for the retraction voltage and the retraction time interval based on the zone location of the transducer when power to the disc drive is interrupted are retrieved from the retraction data table such that the actuator assembly reaches the park position at a velocity within the predetermined range.
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2. The disc drive of claim 1, wherein the park position is adjacent a peripheral portion of the information storage disc.
3. The disc drive of claim 1, wherein the park position is a load/unload
- 30 ramp.
4. The disc drive of claim 1, wherein the retraction voltage is constant.

5 5. The disc drive of claim 1, wherein the predetermined default values for the retraction voltage and the retraction time interval based on the zone location of the transducer are retrieved from the retraction data table when power to the disc drive is unexpectedly interrupted.

10 6. The disc drive of claim 1, wherein the values of the retraction voltage and the retraction time interval are updated in the retraction data table by a serial port command.

15 7. The disc drive of claim 1, further comprising a brake that is arranged to be applied to the actuator assembly for a brake time interval when the disc drive is in seek mode while power to the disc drive is interrupted to halt movement of the actuator assembly.

20 8. A disc drive comprising:
 an information storage disc rotatably mounted on a spin motor and having a surface partitioned into a plurality of zones;
 an actuator assembly for positioning a transducer over the surface of the information storage disc;
 a brake that is arranged to be applied to the actuator assembly for a brake time interval when the disc drive is in seek mode while power to the disc drive is interrupted to halt movement of the actuator assembly; and
 a brake data table that is arranged to store values for the brake time interval corresponding to the zone associated with a velocity of the actuator assembly when power to the disc drive is interrupted;
 wherein a predetermined default value for the brake time interval based on the zone location of the transducer when power to the disc drive is interrupted is retrieved from the brake data table.

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9. The disc drive of claim 8, wherein the value of the brake time interval is updated in the brake data table such that the default value for the brake time interval is available when power to the disc drive is unexpectedly interrupted.

5 10. The disc drive of claim 8, wherein the brake is applied before the actuator assembly is retracted.

11. The disc drive of claim 8, wherein the brake time interval is calculated based on the velocity of the actuator assembly when power to the disc
10 drive is interrupted.

12. The disc drive of claim 8, wherein the zones are concentric.

13. In a disc drive having an information storage disc rotatably mounted
15 on a spin motor and an actuator assembly adjacent the information storage disc for positioning a transducer over a surface of the information storage disc, a method of retracting an actuator assembly to a park position for supporting the transducer off of a data portion of the information storage disc, the method comprising steps of:

partitioning the information storage disc into a plurality of zones;
20 calculating a retraction voltage and a retraction time interval based on the location of the transducer on the surface of the information storage disc;

updating a retraction data table with the calculated values for the retraction voltage and retraction time interval;

25 retrieving updated values for the retraction voltage and retraction time interval from the retraction data table based on the zone location of the transducer when power to the disc drive is interrupted; and

applying the updated retraction voltage for the updated retraction time interval such that the actuator assembly reaches the park position at a
30 velocity within the predetermined range when power to the disc drive is interrupted.

14. The method according to claim 13, wherein the calculating step further comprises the step of:

calculating a brake time interval based on a velocity of the actuator assembly when the disc drive is in seek mode while power to the disc drive is interrupted.

15. The method according to claim 14, wherein the updating step further comprises the step of:

updating a brake data table with the calculated value for the brake time interval.

16. The method according to claim 15, wherein the retrieving step further comprises the steps of:

retrieving the updated value for the brake time interval from the brake data table based on the zone location of the transducer when power to the disc drive is interrupted; and

applying the brake for the updated brake time interval to halt the actuator assembly before applying the updated retraction voltage when power to the disc drive is interrupted.

17. A disc drive having an information storage disc partitioned into a plurality of zones and a park position, comprising:

an actuator assembly adjacent the information storage disc for positioning a transducer over a surface of the information storage disc; and

a means for ensuring that the actuator assembly reaches the park position at a velocity within a predetermined range when power to the disc drive is interrupted.

18. The disc drive of claim 17, wherein the means for ensuring comprises a retraction means for retrieving values of retraction voltage and retraction time interval based on the zone location of the transducer above a

surface of the information storage disc, and for applying the retraction voltage for the retraction time interval to retract the actuator assembly.

19. The disc drive of claim 18, wherein the retraction means is a
5 retraction data table.

20. The disc drive of claim 17, wherein the means for ensuring
comprises a brake means for retrieving values of brake time interval based on the
zone location of the transducer above a surface of the information storage disc, and
10 for applying the brake for the brake time interval to halt the actuator assembly.

21. The disc drive of claim 20, wherein the brake means comprises a
brake data table.